

C5.2 Decks

See the Office of Bridges and Structures web site for archived Methods Memos listed under articles in this section.

The Methods Memos for which policies have been partially revised and/or for which document references have been updated are noted as partially revised. Any obsolete Methods Memos that apply to this section are listed at the end.

C5.2.1 General

C5.2.1.1 Policy overview

**Partially revised: Methods Memo No. 114: Description of Concrete Mix Types on Bridge Decks
24 March 2005 (Note that DS-01030 has been replaced by DS-09011 and DS-01033 has been replaced by DS-09012, 17 November 2009.)**

**Partially revised: Methods Memo No. 121: Use of Special Concrete Mixes on Bridges
8 July 2005**

**Methods Memo No. 174: Bridge Plan Deck Dimension Table
4 September 2007**

C5.2.1.2 Design information

C5.2.1.3 Definitions

C5.2.1.4 Abbreviations and notation

C5.2.1.5 References

C5.2.2 Loads

C5.2.2.1 Dead

C5.2.2.2 Live

**Methods Memo No. 139: Deck Design LRFD
1 January 2008**

C5.2.2.3 Dynamic load allowance

C5.2.2.4 Railing

**Partially revised: Methods Memo No. 162: Bridge Railing Selection on Interstate and Primary Highways
29 June 2007**

**Methods Memo No. 139: Deck Design LRFD, Article 5.2.2.4 and 5.2.4 Bridge Design Manual LRFD
1 January 2008**

C5.2.2.5 Earthquake

C5.2.2.6 Construction

C5.2.3 Load application

C5.2.3.1 Load modifier

C5.2.3.2 Limit states

C5.2.4 Deck analysis, design, and detailing

C5.2.4.1 Traditional decks

C5.2.4.1.1 Analysis and design

Methods Memo No. 139: Deck Design LRFD
1 January 2008

C5.2.4.1.1.1 Analysis assumptions

C5.2.4.1.1.2 Materials

Partially revised: Methods Memo No. 102: 4000 psi, 27.5 MPa Deck Concrete for Long Span BTCs and BTDs

30 December 2004 (Fewer beams require the higher strength deck concrete based on January 2007 design checks that are included in manual revisions [LRFD BDM 5.2.4.1.1.2].)

Partially revised: Methods Memo No. 114: Description of Concrete Mix Types on Bridge Decks
24 March 2005

Partially revised: Methods Memo No. 121: Use of Special Concrete Mixes on Bridges
8 July 2005 (Note that DS-01033 has been replaced by DS-01089, 27 June 2008.)

C5.2.4.1.1.3 Load and resistance factors

C5.2.4.1.1.4 Section properties

C5.2.4.1.1.5 Moment

C5.2.4.1.1.6 Shear

C5.2.4.1.1.7 Fatigue

C5.2.4.1.1.8 Additional considerations

Methods Memo No. 139: Deck Design LRFD
1 January 2008

C5.2.4.1.2 Detailing

Partially revised: Methods Memo No. 51: Revision to Top of Slab Elevation Sheet

5 February 2002

Methods Memo No. 198: Use of Profile Grade line on Bridge Plans
1 May 2008

Partially revised: Methods Memo No. 143: Longitudinal Grooving for Bridge Decks, Bridge Approaches, Bridge Deck Overlays, & Overlay of Bridge Approaches
23 November 2005

Partially revised: Methods Memo No. 156: Revised Longitudinal Grooving Notes
4 January 2007

Partially revised: Methods Memo No. 208: Revision to Limits for Longitudinal Grooving (Article 5.2.4.1.2 – Detailing)
1 January 2009 (Note that Article 2412.03, D, 4, in the 2009 Standard Specifications replaces 2412.06, A, in the 2008 General Supplemental. ~ 16 June 2009)

Memo 5.2.4.1.2-2011 ~ Longitudinal Grooving for High Performance Concrete and Staged Decks
Since 2005 longitudinal grooving of bridge decks was addressed with Methods Memos 118, 143, and 156 and associated CADD Notes. Originally the purpose of the notes was to override the transverse tining required in the 2001 Edition of the Standard Specifications. At this time, the 2009 Edition of the Standard Specifications has been revised to include longitudinal grooving as the standard deck texturing method [IDOT SS 2412.03, D, 4]. Cases A and B for high performance concrete and staged decks no longer are needed and are being deleted. The CADD Notes associated with Cases A and B, E208/M 208 and E209/M 209, were deleted in July 2010 and January 2007, respectively.

Partially revised: Methods Memo No. 121: Use of Special Concrete Mixes on Bridges
8 July 2005

Methods Memo No. 139: Deck Design LRFD
1 January 2008

Partially revised: Methods Memo No. 144: Revised Policy for Transverse Joints for CCS and PCBM Bridges
1 February 2008 (Note E925/M925 was deleted by MM No. 202.)

Methods Memo No. 204: General Note on Keyway Dimensions
1 August 2008

Methods Memo No. 202: Revision to Deck Placement Notes
1 October 2008

Methods Memo No. 108: Longitudinal Construction Joint Placement in Decks
8 November 2005

Methods Memo No. 10: Closure Pours
30 August 2001

C5.2.4.2 Empirical decks

C5.2.4.3 Prestressed deck panels

C5.2.4.3.1 Analysis and design

C5.2.4.3.1.1 Design criteria

C5.2.4.3.1.2 Materials

C5.2.4.3.1.3 Additional considerations

C5.2.4.3.2 Detailing

C5.2.4.4 Two-course decks

Partially revised: Methods Memo No. 95: Deck Overlays on New Construction

30 December 2004 (In Attachment A the reference in the note to the 2009 Standard Specifications is 2413.03, B, changed from 2413.04 in the 2001 Standard Specifications. ~ 16 June 2009. Item 6 is revised for 2.0-inch cover ~ 13 December 2010.)

C5.2.4.4.1 Analysis and design

C5.2.4.4.2 Detailing

Memo 5.2.4.4.2-2010: Cover for Reinforcement in First course of Two-course Deck

During a two-course deck project in 2010 inspectors observed shadowing and cracking above first course reinforcing bars that were placed with a cover of 1.0 inch (25 mm). During placement of the second course, concrete trucks and other relatively heavy construction traffic rode on the first course, possibly increasing cracking. To attempt to reduce shadowing and cracking in the future, the cover for top bars in the first course is being increased to 2.0 inches (50 mm).

Obsolete: Methods Memo No. 81: Deck Drains

24 March 2005 (Reference to Road Design Detail was corrected 23 October 2009.)

Obsolete: Methods Memo No. 94: T.O.S. Elevations for Beam Bridges

30 July 2004

Obsolete: Methods Memo No. 183: Policy Regarding Construction Loading

1 January 2008